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Factsheet

BODY CONDITION SCORING OF BEEF COWS

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Cow body condition during the yearly production cycle will have a direct bearing on a cows' productive efficiency. Cow condition is important in producing a healthy and strong calf, sufficient quantities of milk (colostrum) and also in determining when a cow shows estrus following calving.

Body Condition Scoring

Condition scoring is a system of classifying breeding animals by differences in relative body fatness. Most scoring systems have been based on palpation of the back and hindquarters of the cow. Particular attention is given to the chine, loin, rump, tail head, hook bone and pin-bone regions.

Figure 1. Areas considered for condition score

Cows in one system are scored on a scale of 1 to 5. A score of 1 indicates severe underconditioning while a score of 5 is assigned to overconditioned obese cows.

Scoring System

Score 1 Individual spinous processes have limited flesh cover; the ends are sharp to touch; they give a definite overhanging shelf effect to the loin region.

Score 2 Transverse processes can be felt, but not prominent, rounded with some fat cover.

Score 3 Transverse processes can be felt with firm pressure; processes appear smooth; the overhanging shelf effect is not noticeable.

Score 4 Individual processes only felt with very firm pressure; rounded with no overhanging shelf effect; loin and rump appear flat; tail head and pins are rounded.

Score 5 The structure of the transverse processes, hook and pin-bone region is not apparent; fat deposition is obvious and prominent.

Ref: E.E. Wildman

It may not be necessary or practical to palpate all cows under most circumstances but an understanding of the scoring system and what is involved would allow eyeballing or visual appraisal of cows to evaluate condition.

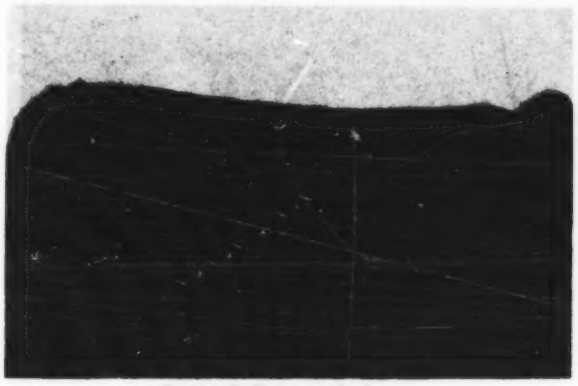
SCORING EXAMPLES

Score 1. Very thin
Figure 2.

Score 2. Thin
Figure 3.

Score 3. Good Condition
Figure 4.

Score 4. Moderately fat
Figure 5.



Score 5. Extremely fat
Figure 6.

Keep in mind that because of animal-to-animal variation, a range of body condition scores can be expected among cows at the same stage. Significant numbers of cows outside acceptable ranges would indicate possible problems and need for feeding adjustments.

Condition scoring provides a nutritional management tool to evaluate body condition of beef cows which will assist producers in more closely meeting the nutritional needs of the cow herd.

Possible Scoring Use

1. Observe cows one or two months before calves are scheduled to be weaned. If the cows are thin, supplement feed or wean the calves. Early weaning and effective weaning management (Preconditioning of Beef Calves) has several advantages:
   (a) the cows alone will utilize the remaining pasture to replenish body weight;
   (b) the weaning and effective weaning management of calves will generate additional profit dollars by improved health and increased weight gains.
2. Score cows by body condition at weaning time — feed accordingly. Pasture availability will determine supplemental feeding requirements.
3. Prior to calving. Thin cows could make the calf susceptible to "weak calf syndrome" and result in a decreased live calf crop. Fat cows could experience more calving difficulties with increased stillbirths and veterinary expense.
4. Prior to breeding (middle of calving season). Feed to achieve body condition score necessary for optimum breeding efficiency.

Figure 7. Sort cows by body condition and feed accordingly

Suitable adjustments must be made to the feeding program to meet the target score if cows are indeed too thin or too fat.

Cows and especially heifers can lose condition very rapidly when subjected to environmental and nutritional stresses. It has been noted that it is usually cheaper to maintain or put weight on the thin cows in the fall than to catch up with expensive winter feeding programs.

It would also have to be conceded that in trying to optimize production, lower reproductive rates under conditions of low feed supplies may be acceptable when profit is considered. This would be a rare situation in most cases.

Nutritional Stress

Nutrient deficiencies most often occur in first-calf heifers and younger cows since the normal growth of these animals demands additional nutrients. This stress of growth, coupled with the need for nutrients by the developing fetus, may result in a nutrient deficiency that could make the developing fetus susceptible to **weak-calf syndrome — protein deficiency**. Results from research have shown that weak-calf syndrome was significantly associated with the amount of protein eaten by the cow during the last 60 days of pregnancy. Those eating hay with more than 10% crude protein content had essentially no problems with weak-calf syndrome.

Most of fetal growth is tissue composed of protein and minerals. These essential nutrients must be provided by the cow or physiological processes in the unborn calf will be disrupted leading to nutritional and/or infectious diseases at birth.

Colostrum — milk

Adequate quantities of colostrum are essential to calves as soon after birth as possible to provide the necessary immunity to disease.

Research concerning calf health conducted by Dr. T.H. Ogilvie at the Elora Beef Research Station, University of Guelph has shown that the quality of milk (colostrum) from cows of poor condition is not impaired but the **quantity** of colostrum is **severely limited**. As a result, the calf is unable to nurse enough for proper growth or maintenance and may fall prey to disease conditions more easily than a well-nourished calf. It is essential that cows about to calve are healthy and in good condition.

Body Condition Effects on Reproduction

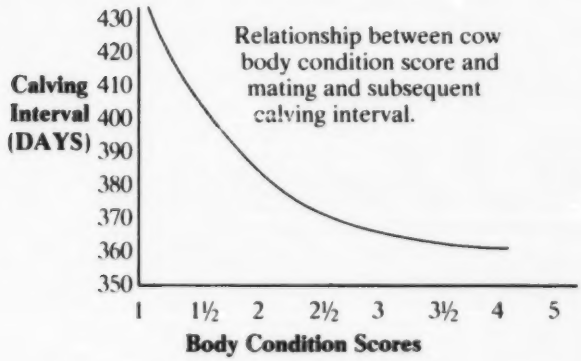
Body condition is important in determining when a cow shows estrus following calving. Cows should be in moderate to good body condition at calving time to attain optimum reproductive performance.

Cows require adequate nutrition and rest post-calving in order to cycle normally. Conception rate has been shown to be higher in cows bred 60 days or more after calving. In one study 91% of the cows in good body condition at calving had shown estrus by 60 days post-calving, as compared with 61% of the cows in moderate condition and 46% of the cows in thin body condition.

Table 1. Body Condition at Calving and Heat after calving

Body Condition at Calving	No. of Cows	Days after Calving (%)						
		40	50	70	80	90	100	120
Thin	272	19	34	55	62	66	70	77
Moderate	364	21	45	79	88	92	100	100
Good	50	31	42	96	98	100	100	100

Ref: Wiltbank



Relationship between cow body condition score and mating and subsequent calving interval.

The relationship noted above has led to the recommendation of a **MATING TARGET SCORE 2½.**

Cows should be in moderate to good body condition at calving time to attain optimum reproductive performance.

Beef Cows' Priorities

1. First priority is cows' survival.
2. Nourishment of her calf (milk production).
3. Reproduction.

This means the first two priorities must be met before the third can be accomplished.

Table 2. Hay Feeding-Level Fed

	100%	80%	60%	40% (mean starvation)
Pregnancy	92	88	73	57
Weaning (lbs)	465	460	435	300
Live Weight Sold lb/acre	364	353	296	179

Ref: Cartwright Overton Texas
Based on % of unlimited intake (80% best level)

Recommendations

1. Analyze all feed for nutritional value.
2. Evaluate cow condition and feed cows accordingly (protein + energy).
3. Plan to feed higher protein forages during the 60 days before calving and during calving.
4. Feed a protein supplement when low quality hay is the major source of feed.
5. Appropriate mineral and salt-free choice

Body condition scoring of beef cows can be a useful management tool in evaluating cow condition, meeting the nutritional needs of individual cows and improving the overall productive efficiency within the herd. By doing so, extremes can be avoided and performance and profit improved.

References: 1. Veterinary Clinics of North America, J.N. Wiltbank
2. Cattlemen's Library
3. Herd Health Memo No. 246 University of Idaho
4. Common Disease Problems in Nursing Beef Calves 1981, T.H. Ogilvie, O.V.C.

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